CIVIL-TECH CONSULTANTS AND ENGINEERS

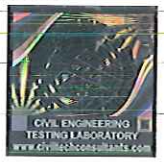
Building & Highway Material Testing Laboratory
An ISO 9001:2008 Certified Company
NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

JAS-ANZ BSCIC ISO 9001 REGISTERED

Job No.: CTCE/BBMP/SR/W.No.14/WMM/Shape.T/2016-17 18.03.2017

TEST REPORT ON FLAKINESS INDEX & ELONGATION INDEX OF COARSE AGGREGATES

* Customer	:	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
* Agency	:	**Mr. Sreeramreddy,** #62, Behind Widia Ashok Nagara, Nagasandra (P), Bangalore.
* Name of Work	:	Improvements to Roads and Drain at 4th and 5th cross MHR Layout in Bagalagunte Ward No.14, Dasarahalli Sub Division, BBMP, Bangalore.
* Reference	:	BBMP/DZ/AEE/TDSD/PR/759/2016-17 Dated: 20.02.2017
* Sample ID	:	Wet Mix Macadam
Technical Reference	:	IS 2386(Part 1) 1963 (RA 2011)
Date of Testing	:	18.03.2017



Sl.No.	Description	Result
1	Flakiness Index	11.32%
2	Elongation Index	13.20%
3	Combined Flakiness & Elongation Index	24.52%

*Information is furnished by the Customer/Representative.

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Comments:

→ Maximum allowable Flakiness & Elongation Index for Wet Mix Macadam is 30%

Note:

⇒The report shall not be reproduced, except in full, without the written approval of the laboratory.

⇒The results indicated above are based on the tests carried out on the samples received in the laboratory

⇒Any Query regarding the report must be reported within 30 days from the date of testing.

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#23/14, 7th Cross 3rd Stage 4th Block,
Shakthi Ganapathinagar,
Basaveshwaranagar, Bangalore-560 079.

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ಟಿ.ದಾಸರಹಳ್ಳಿ ಉಪ-ವಿಭಾಗ
ಬಿಬಿಎಂಪಿ, ಬೆಂಗಳೂರು

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Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 :2005

T-2377

Job No.: CTCE/BBMP/SR/W.No.14/CSR-02/277d/QB(BC)/2016-17 23.03.2017

TEST REPORT ON DETERMINATION OF BITUMEN CHARACTERISTICS

* Customer	:	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
* Agency	:	**Mr. Sreeramreddy,** #62, Behind Widia Ashok Nagara, Nagasandra (P), Bangalore.
* Name of work	:	Improvements to Roads and Drain at 4th and 5th cross MHR Layout in Bagalagunte Ward No.14, Dasarahalli Sub Division, BBMP, Bangalore.
* Reference	:	BBMP/DZ/AEE/TDSD/PR/759/2016-17 Dated: 20.02.2017
* Sample ID	:	Bitumen
Source/ Location	:	Hot Mix Plant, Bangalore.
Sample Received on	:	21.03.2017
Period of Testing	:	23.03.2017

The results of the tests conducted on the bitumen sample are as follows:

Sl. No	Description	Test Method as per IS	Test Result	Requirement as per IS:73:2013
1	Penetration at 25 ^{0}C, 1/10 mm	IS :1203 -1978 (RA-2014)	86	80 to 100
2	Softening point, ^{0}C	IS :1205 -1978 (RA-2014)	44	Min. 40
3	Ductility at 27^{0}C, cm	IS :1208 -1978 (RA-2014)	100 >	Min. 75
4	Flash Point, ^{0}C	IS :1209 -1978 (RA-2014)	302	Min. 220

* Information is furnished by the Customer/Representative

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VIDYARANI P.K.
Technical Manager

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Job No.: CTCE/BBMP/SR/W.No.14/BC/AIV/2016-17 23.03.2017

TEST REPORT ON IMPACT VALUE OF AGGREGATES

* Customer	:	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
* Agency	:	**Mr. Sreeramreddy,** #62, Behind Widia Ashok Nagara, Nagasandra (P), Bangalore.
* Name of Work	:	Improvements to Roads and Drain at 4th and 5th cross MHR Layout in Bagalagunte Ward No.14, Dasarahalli Sub Division, BBMP, Bangalore.
* Reference	:	BBMP/DZ/AEE/TDSD/PR/759/2016-17 Dated: 20.02.2017
* Sample ID	:	Hot mix plant, Bangalore.
* Type of Mix	:	Bituminous Concrete
Technical Reference	:	IS: 2386 (Part- 4)-1963 (RA-2011)
Date of Testing	:	23.03.2017

Sl No.	Details	Trial No.		Average
		1	2	
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	382	383	
2	Weight of agregate passing 2.36 mm sieve after the test = W_2 g	79	80	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	303	303	
4	Aggregate Impact value = percent fines 100* (W2/W1) percent	20.68	20.89	**20.78**

*Information is furnished by the Customer/Representative.

Comments:

→ Maximum allowable Aggregate Impact value for Bituminous Concrete is 24%

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Job No.: CTCE/BBMP/SR/W.No.14/BC/Shape.T/2016-17 23.03.2017

TEST REPORT ON FLAKINESS INDEX & ELONGATION INDEX OF COARSE AGGREGATES

* Customer	:	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
* Agency	:	**Mr. Sreeramreddy,** #62, Behind Widia Ashok Nagara, Nagasandra (P), Bangalore.
* Name of Work	:	Improvements to Roads and Drain at 4th and 5th cross MHR Layout in Bagalagunte Ward No.14, Dasarahalli Sub Division, BBMP, Bangalore.
* Reference	:	BBMP/DZ/AEE/TDSD/PR/759/2016-17 Dated: 20.02.2017
* Sample ID	:	Hot mix plant, Bangalore
Technical Reference	:	IS : 2386(Part -1)-1963 (RA-2011)
* Type of Mix	:	Bituminous Concrete
Date of Testing	:	23.03.2017

Sl.No.	Description	Result
1	Flakiness Index	11.65%
2	Elongation Index	13.50%
3	Combined Flakiness & Elongation Index	25.15%

*Information is furnished by the Customer/Representative.

Comments:

→ Maximum allowable Flakiness & Elongation Index for Bituminous Concrete is 30%

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Job No.: CTCE/BBMP/SR/W.No.14/BC/Stripping/2016-17 24.03.2017

TEST REPORT ON STRIPPING VALUEOF ROAD AGGREGATES (STATIC IMMERSION TEST)

* Customer	:	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
* Agency	:	**Mr. Sreeramreddy,** #62, Behind Widia Ashok Nagara, Nagasandra (P), Bangalore.
* Name of Work	:	Improvements to Roads and Drain at 4th and 5th cross MHR Layout in Bagalagunte Ward No.14, Dasarahalli Sub Division, BBMP, Bangalore.
* Reference	:	BBMP/DZ/AEE/TDSD/PR/759/2016-17 Dated: 20.02.2017
Technical Reference	:	IS: 6241
* Type of Mix	:	Bituminous Concrete
Date of Testing	:	24.03.2017

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Type of binder : 80/100
Percentage of binder used : 5.00% by wt.
Total weight of aggregate : 200 g
Total weight of binder : 10.00 g
Temperature of water-bath : 40° C

Observation Number	Stripping, Percentage	Average, Percentage	Average Retained Coating, %
1	3.1	3.20	96.80
2	3.2		
3	3.3		

*Information is furnished by the Customer/Representative.

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Comments:

→ Minimum allowable Aggregate retained coating for Bituminous Concrete is 95%

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